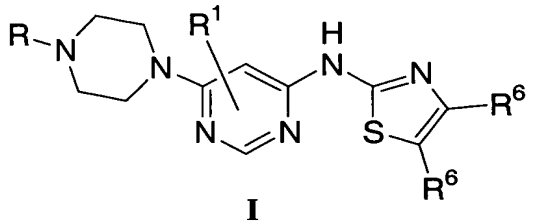
WHAT IS CLAIMED IS:

1. A process for preparing substituted thiazolyl-amino pyrimidinyl piperazines of Formula I:



I

wherein
R is H, $(C_1\text{-}C_6)$alkyl, $(C_0\text{-}C_6)$alkyl-$NR^aR^b$, or $(C_0\text{-}C_6)$alkyl-$C(O)N(R^e)_2$;

$R^1$ is H, or unsubstituted or substituted $(C_1\text{-}C_6)$alkyl;

$R^6$ is independently selected from H, phenyl, halogen, CN, and pyridyl, said phenyl and pyridyl optionally substituted with one to three substituents selcted from $R^7$;

$R^7$ is independently selected from:

1) $O_r(C=O)_sNR^aR^b$,
2) $(C=O)_rO_s$aryl,
3) $(C=O)_rO_s$-heterocyclyl,
4) halogen,
5) OH,
6) $O(C_1\text{-}C_3)$perfluoroalkyl,
7) $(C_1\text{-}C_3)$perfluoroalkyl,
8) $(C=O)_rO_s(C_1\text{-}C_6)$alkyl,
9) $CO_2H$,
10) CN,
11) $(C_1\text{-}C_6)$alkyl-$NR^aR^b$, and
12) $(C_1\text{-}C_6)$alkyl-heterocyclyl,

wherein r and s are independently 0 or 1, and said aryl, heterocyclyl and alkyl are optionally substituted with one to three substituents selected from $R^d$;

$R^a$ and $R^b$ are independently:

1) H,
2) $(C=O)_r(C_1\text{-}C_{10})$alkyl,
3) $S(O)_2R^c$,
4) $(C=O)_r$heterocyclyl,
5) $(C=O)_r$aryl, and
6) $CO_2R^c$,

wherein r is 0 or 1 and said alkyl, heterocyclyl, and aryl optionally substituted with one or more substituents selected from $R^d$;

$R^c$ is independently selected from $(C_1\text{-}C_6)$alkyl, aryl, and heterocyclyl;

$R^d$ is independently selected from:

1) $(C=O)_rO_s(C_1\text{-}C_{10})$alkyl, wherein r and s are independently 0 or 1, optionally substituted with up to three substituents selected from OH, $(C_1\text{-}C_6)$alkoxy, halogen, heterocyclyl, CN, oxo, $N(R^e)_2$ and $S(O)_2R^c$,
2) $O_r(C_1\text{-}C_3)$perfluoroalkyl,
3) $(C_0\text{-}C_6)$alkylene-$S(O)_mR^c$, wherein m is 0, 1, or 2,
4) OH,
5) halo,
6) CN,
7) $(C_0\text{-}C_6)$alkylene-aryl, optionally substituted with up to three substituents selected from $R^e$,
8) $(C_0\text{-}C_6)$alkylene-heterocyclyl, optionally substituted with up to three substituents selected from $R^e$,
9) $C(O)R^c$,
10) $CO_2R^c$,
11) C(O)H,
12) $N(R^e)_2$, and
13) $CO_2H$;

$R^e$ is independently selected from:

1) H,

2) $(C_1\text{-}C_6)$alkyl, optionally substituted with one or more substituents selected from OH, heterocyclyl, $(C_1\text{-}C_6)$alkoxy, halogen, CN, oxo, $N(R^f)_2$ and $S(O)_2R^c$,

3) aryl, optionally substituted with one or more substituents selected from OH, heterocyclyl, $(C_1\text{-}C_6)$alkoxy, halogen, CN, $N(R^f)_2$ and $S(O)_2R^c$,

4) heterocyclyl, optionally substituted with one or more substituents selected from OH, heterocyclyl, $(C_1\text{-}C_6)$alkoxy, halogen, CN, oxo, $N(R^f)_2$ and $S(O)_2R^c$, and

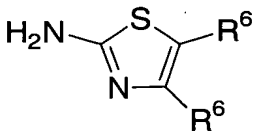
5) $S(O)_2R^c$;

said heterocycle optionally substituted with one or more substituents selected from OH, $(C_1\text{-}C_6)$alkoxy, halogen, CN, oxo, $N(R^f)_2$ and $S(O)_2R^c$; and

$R^f$ is independently selected from H, aryl and $(C_1\text{-}C_6)$alkyl;

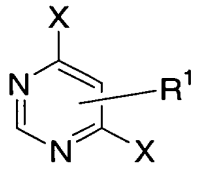
which comprises the steps of:

a) reacting a compound of Formula II



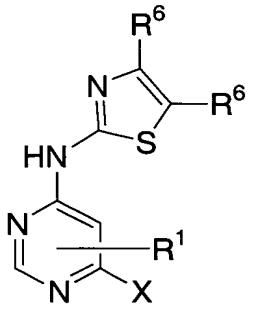
II

with a compound of Formula III



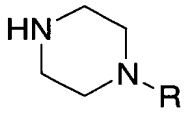
III

(wherein X is halo), to provide a compound of Formula IV



**IV** ;

b) reacting the compound of Formula IV with a compound of Formula V



**V** ; and

c) isolating the compound of Formula I.

2. The process according to Claim 1 which comprises the steps of:

a) adding the compounds of Formula II and Formula III and a phosphate to a first solvent;

b) isolating the compound of Formula IV;

c) adding the compound of Formula IV and a trialkylamine to a mixture of the compound of Formula V in a second solvent; and

d) isolating the compound of Formula I.

3. The process according to Claim 2 wherein the first solvent is selected from unchlorinated or chlorinated hydrocarbons, nitriles, ethers, polar aprotic solvents or mixtures thereof.

4. The process according to Claim 2 wherein the second solvent is selected from water, alcohols, unchlorinated or chlorinated hydrocarbons, nitriles, ketones, ethers, polar aprotic solvents or mixtures thereof.

5. The process according to Claim 2 wherein the unsubstituted or substituted amine is selected from unsubstituted or substituted arylamine, unsubstituted or substituted heteroarylamine, unsubstituted or substituted $C_1$- $C_6$ alkylamines, ammonia, $H_2N$-$R^aC(O)OR$ and $H_2N$-$R^aSR$.

6. The process according to Claim 1 which comprises the steps of:

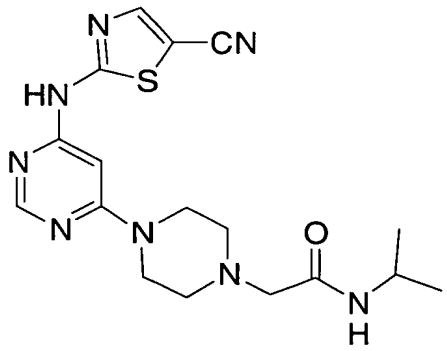
a) adding the compounds of Formula II and Formula III and a carbonate to a first solvent;

b) isolating the compound of Formula IV;

c) adding the compound of Formula IV and a trialkylamine to a mixture of the compound of Formula V in a second solvent; and

d) isolating the compound of Formula I.

7. A process for preparing 2-(4-{6-[(5-cyano-1,3-thiazol-2-yl)amino]pyrimidin-4-yl}piperazin-1-yl)-*N*-isopropylacetamide




which comprises the steps of:

a) adding 2-amino-5-cyanothiazole, dichloropyrmidine, and $K_3PO_4$ to DMF to provide 2-[(6-chloropyrimidin-4-yl)amino]-1,3-thiazole-5-carbonitrile;

b) adding 2-[(6-chloropyrimidin-4-yl)amino]-1,3-thiazole-5-carbonitrile and triethylamine to N-Isopropyl-2-piperazin-1-ylacetamide in n-butanol; and

c) isolating 2-(4-{6-[(5-cyano-1,3-thiazol-2-yl)amino]pyrimidin-4-yl}piperazin-1-yl)-*N*-isopropylacetamide.